

My Healthy Woods

A HANDBOOK FOR FAMILY WOODLAND OWNERS IN SOUTHWEST WISCONSIN

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A HANDBOOK FOR FAMILY WOODLAND OWNERS

managing woods in
Southwest Wisconsin



A publication of the Aldo Leopold Foundation
and the American Forest Foundation

About the Publishers

ALDO LEOPOLD FOUNDATION

Aldo Leopold (1887-1948), noted wildlife expert, conservationist and writer, understood the importance of the relationship between people and land. The Aldo Leopold Foundation works to weave a land ethic into the fabric of our society; to advance the understanding, stewardship and restoration of land health; and to cultivate leadership for conservation. The foundation is committed to the ongoing restoration of the Leopold Shack and Farm, where, in 1935, Aldo Leopold and his family undertook a revolutionary experiment in returning health to a worn out farm. Celebrated in Leopold's classic *A Sand County Almanac*, the transformed land now supports vibrant forests, wetlands, and prairie and draws visitors from around the world. First published in 1949, *A Sand County Almanac* has sold over two million copies in ten languages. Leopold's words have inspired many to understand their relationship to land. The foundation's goal is to share the legacy of Aldo Leopold. As long as we care about people, land, and the connections between them, we have hope for sustainable land, economies, and communities.

AMERICAN FOREST FOUNDATION

The American Forest Foundation (AFF) is a nonprofit 501(C)(3) conservation and education organization that strives to ensure the sustainability of America's family forests for present and future generations. Our work is critically important to 10 million family forest owners in America, who own more than 264 million acres. Our outreach and education programs nurture and promote the power of private stewardship on America's family forestlands – forests that provide clean air and water, carbon sequestration, green space and critical wildlife habitat; that ensure a sustainable supply of wood and paper products; that support rural economies; and enrich our quality of life. AFF's educational programs prepare citizens to make thoughtful, reasoned decisions about the future of forests, and related natural resources. We provide tools and resources to cultivate and support a network of conservation and research partners who can advance AFF's conservation goals.

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Introduction

What do you enjoy about your woods? A quiet escape, memories of a great hunt, the smell of fallen leaves, flowers blooming along your walking trail, valuable trees, morel mushrooms, wet areas loaded with animal tracks, birds singing, a turkey gobbling, sharing time with your family in nature? Each of these rewards – physical, economic, and emotional – is the product of a good relationship between you and your land. This handbook is about building that relationship.

The landscape of any farm is the owner's portrait of himself.

Aldo Leopold, "The Farmer as a Conservationist," (1939)

Southwest Wisconsin is a rapidly changing landscape, and this handbook aims to help you better understand the issues facing your woods. We hope in time this information inspires you to act. If so, start simply. Each

section of the handbook provides a possible starting point for action. Don't feel you have to do everything. Use the information to figure out what actions will work best in your woods and to prioritize where to start.

You will find that you go through different stages in your relationship with your land. Simple observations and experiences such as seeing wildlife, finding a big tree, hearing birds singing, picking out a hunting spot, or enjoying fall colors all can lead you to be attracted to your land. At this point, the relationship is usually effortless with very few expectations beyond what is freely given.

As your expectations for your land grow, the relationship begins to demand

a little more effort on your part. Expectations can lead to conflicts between your vision and your land, and there is a need to resolve those differences. You might want things that the land is not capable of providing. For example, you may struggle to establish tree species in an area where they are poorly suited. As expectations grow, planning ahead can help insure that your relationship to your land doesn't fall apart when the going gets tough.

After you have successfully worked through problems with your land, you reach a stage of cooperation. The emphasis shifts from “me” to “we.” You'll find that you begin to choose actions that are more acceptable to both you and the land. For example, you choose to plant tree species well suited for the site, even when it's a compromise from what you had originally wanted. This stage can lead to lasting solutions for both people and land. All of the practices in this handbook are aimed at finding ways of cooperating with your woods. Timber harvest ideas, invasive species control, and prescribed burning all create actions that benefit your land and promote values that may be important to you, such as natural beauty, wildlife, hunting, and economic returns – the rewards of a mutually beneficial relationship.

After years of cooperating, you begin to feel a sense of commitment to your land. At this point, you are comfortable in the relationship. You know your land, warts and all, better than anyone. Earlier in the relationship the land's limitations frustrated you, but now you accept them as boundaries. You and your land have a history, and it is difficult to imagine yourself outside of this relationship. The attachment you feel is a great reward in itself, and the more you continue to work with your land, the richer the other rewards become.

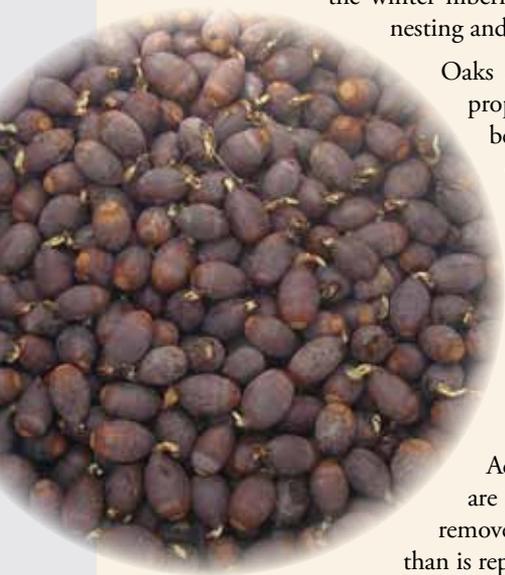
A good way to start is to do a “woods walk” with a professional.

Paul and Sharyn Richardson,
Vernon County Landowners



Why Oak Woods?

Attention to oak species is particularly important in Southwest Wisconsin. Many people recognize the value of oak trees for uses in furniture and home building, and they are valuable to many species of wildlife. Oak acorns are a key food source for animals that migrate long distances in the fall or spend the winter hibernating, and the trees provide important nesting and shelter habitat as well.



Oaks have needs. Having oak trees on your property now does not guarantee they will be there for the next generation. You may observe a bounty of acorn production in the fall and conclude, “Oaks are doing just fine on my land.” Seed production is obviously important, but without the right conditions, those acorns may never grow into new oak trees. If the seeds can’t become trees, you may not see any young oaks growing to maturity in the next generation of your woods.

Across Southwest Wisconsin, oak species are in decline. Timber harvests currently remove approximately 30 percent more oak than is replaced each year. Oak trees frequently are not replacing themselves; instead they are being replaced by more shade-tolerant trees like maple and basswood.



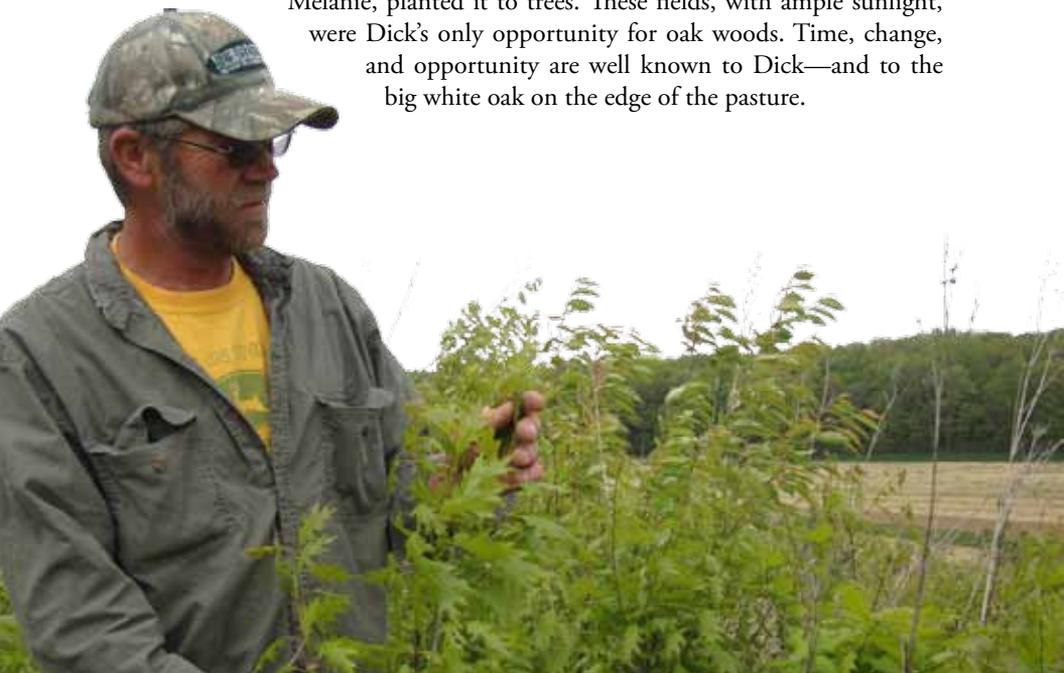
Dick Mielke's Farm

"That tree has been here a while," Dick says with a smile. He points to a white oak with spreading branches that is easily a couple hundred years old. As a young boy, Dick walked past the old oak every night to bring the cows back from pasture. The farm, first his grandparents' then his dad's, was a mix of pasture, tillable land, and woods. The woods provided firewood and the annual deer hunt. Dick, at age 14, shot his first deer here, a nubbin buck. But time and change almost always go together—and the Mielke farm has been no exception.

A lot happened in four decades. The dairy herd was sold in the late 1960s and Dick found himself working in town. The tillable acreage was rented to neighbors. A marginal field had grown up to scrubby trees. And, then there was the rock. Four decades ago, everyone knew the exact location of the massive rock that lurked 8 inches below the ground in one of their fields. You had to know or you risked damaging the plow. Today, the rock sits a foot above the ground—soil loss recorded in stone. But for Dick, these changes meant opportunity.

In 1988, Dick began to take over the farm. Almost immediately, Dick used a timber sale for a down-payment of a new home on the land. Dick soon found he enjoyed learning new things about the piece of land he grew up on—some self-taught, others gleaned from foresters. He really wanted to perpetuate his oak woods but soon learned that on his north-sloping land, sugar maple seedlings and saplings already had a strong foothold under his mature red and white oak. These young maples will be tomorrow's mature trees once the oaks are gone.

As for the steep field with the big rock, Dick and his wife, Melanie, planted it to trees. These fields, with ample sunlight, were Dick's only opportunity for oak woods. Time, change, and opportunity are well known to Dick—and to the big white oak on the edge of the pasture.



Oak Savanna

What is it?

Oak savannas are defined by having scattered oak trees that are “open-grown” (broad spreading branches). There is typically a lot of sunlight that reaches the ground (50 percent or more). The flowers and shrubs growing beneath these open-grown trees can be unique to this level of partial shade.

What maintained it?

Fire reduced the number and species of trees in this plant community. Bur oak, with its corky bark, is better insulated from the affects of fire.

Historically, large mammals such as elk played a role in browsing on shrubs and young trees, helping maintain openness.

Where is it found?

This plant community historically was extremely widespread in Southwest Wisconsin, covering nearly 7 million acres. It was found on a range of soil moisture types (dry, dry-mesic, mesic and wet-mesic). Savannas on the more moist soils were converted to other land uses (likely agriculture) or quickly grew up to

more closed canopy woods in the absence of fire.

How would I recognize it?

Today, this plant community is very uncommon. A good place to look is on the south or west slope of a hill. The “savanna trees” are the most obvious clue. Look for large oak trees (bur and white oak) that have large, horizontally outstretched branches. If you find one, the neighboring trees are almost certainly much younger. This competition from other trees can result in the savanna tree’s lower branches dying from a lack of sunlight.

What more common plants can I find in savannas?

Tall anemone, shooting star, woodland boneset, late horse gentian, leadplant, and little bluestem.



Prairie skink



Savanna tree

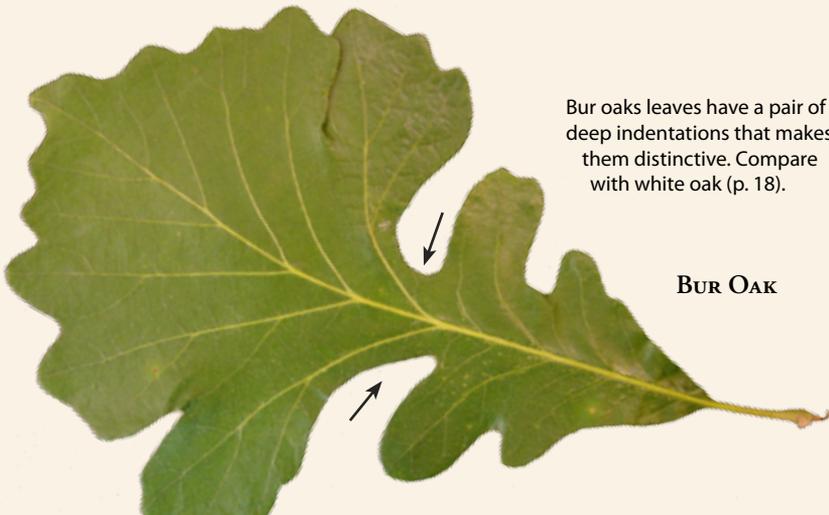
John Gritt



What unique animals can I find in savannas?

Savannas provide a unique habitat for some animals. Brown thrasher, red-headed woodpecker, field sparrow, Blanding's turtle, bullsnake, northern prairie skink, ornate box turtle, prairie racerunner, prairie ringneck snake, timber rattlesnake, Franklin's ground squirrel, and woodland vole all make their homes in savannas.

Little bluestem



Bur oaks leaves have a pair of deep indentations that makes them distinctive. Compare with white oak (p. 18).

BUR OAK

Observing Change



1937



1974



1995

Watch how the tree cover has increased over time by looking at these air photos from a property in Sauk County taken in 1937, 1974, and 1995. The light areas are prairie and the dark areas are trees.

Field Exercise: Reading The History of My Land

Air photos of Wisconsin have been taken periodically starting in the late 1930s and continuing through today. You may be able to pull together a series of photos for your property that will give you insight into the history of your land. You might be surprised by what you find. In many cases, the south- and west-facing hillsides had many fewer trees than today. They were part of the pre-settlement prairies and oak savannas that have now “darkened” into woods. You may be able to distinguish evergreen trees in the photos, too—on south and west slopes these would likely be Eastern red cedars, which have also grown in over areas that once were prairie. Historical air photos may be available for your property through your local Farm Services Agency office, Natural Resources Conservation Service office, or the Robinson Map Library at the University of Wisconsin–Madison or www.sco.wisc.edu/apcat/apcat.php.



Invasive Plant Profile: Garlic Mustard

Why is it a problem?

Garlic mustard grows well in cool temperatures, so it is actively growing before many native plants. It forms dense stands, out-competing wildflowers and even tree seedlings—it can out-compete almost any native plant in your woods. And the seeds survive in the soil for up to seven years, so multiple years of control are needed to exhaust the seeds in the soil.



Seed pods hold hundreds of tiny seeds that are easily transported by people and animals.

stalk grows out of the cluster of leaves on the ground. The flowers are very small (1/4" in diameter) with four white petals. By May or June, the petals have fallen off and the seed pods are developing and getting longer, which usually mature by July. After seed production, the plant has completed its life cycle and dies. The dead stems remain standing for the rest of the year and shed seeds. All green parts of the plant have a distinctive garlic odor when crushed.

How do I recognize it?

Garlic mustard is a non-woody plant that grows approximately 2-4 feet tall. It is a biennial (two-year life cycle). In the first year, it develops a green, leafy basal rosette (leaves clustered on the ground).

In the second year, a flowering

Below, second-year garlic mustard plants about to flower.



Where does it grow?

It grows best in slight to heavy shade. It will grow on almost any soil type, but spreads most quickly in moist, rich soils.

How does it spread?

The seeds are small and easily attach to any wet or muddy surface, such as boots, hooves (deer or horse), animal fur, mower decks, logging equipment, tires, etc. Populations usually start along a trail, roadside, deer path, or logging road.

How do I control it?

HAND-PULLING – Small garlic mustard infestations can be controlled with hand-pulling. Be sure to pull out the entire root because roots left in the ground can resprout and produce seeds. Plants with mature seed pods should be bagged and removed from the woods.

HERBICIDE – Large infestations are best controlled by spraying with the herbicide glyphosate (the active ingredient under many trade names) mixed with water to make a solution of 1.5-2% active ingredient. Apply herbicide in early spring or late fall when native plants are not actively growing and will not be harmed.



Treating a large patch of garlic mustard with herbicide

Woodland Wisdom: Your shoes had better be clean!

Growing up, you may have heard your mother or father yell this to you as you ran into the house for dinner. Now, you need to yell it to friends, hunters, loggers, and hikers before they enter your woods. And if you have invasive plants in your woods, clean your boots off when you leave, too. Boots, tires, hooves are all capable of carrying invasive plant seeds from one place to another, planting them in your woods and elsewhere.

lengths, making it the most dangerous type of fire. In a basic prescribed burn, head fire is lit only after backing and flanking fire have been used to secure the edges of the burn unit. Then, when the three types of fires meet in the middle of the unit, the fire burns itself out.

Burn breaks around the entire burn unit help to contain the fire by creating a break in burnable fuel along all edges. A typical burn break can be a road, river, agricultural field, burned line, a leaf-blown or raked path, or other non-burnable surface. Breaks are installed prior to the burn and should be at least five feet wide.

Additional Resources:

Wisconsin Prescribed Fire Council has many resources, training opportunities, and planning guides: www.prescribedfire.org

Fire Weather: fire.boi.noaa.gov

WDNR Fire Program has current fire danger level for your area and contact information for getting required, free burn permits: www.dnr.state.wi.us/forestry/fire

Fire Effects Information System (FEIS) USDA Forest Service has information on the effects of fire on plants and animals: www.fs.fed.us/database/feis/

Woodland Wisdom: Light and Variable is Terrible

If wind has such a strong effect on fire, wouldn't it be best to burn under very light or calm winds? No, and here is why. In a prescribed fire, consistent wind speed and direction make the fire predictable for an experienced fire manager. If the winds are calm or light and variable direction, the fire movement is harder to control and becomes dangerous. These conditions risk your safety, personal property, and forest resources.



BACK FIRE



FLANK FIRE



HEAD FIRE

Learn More from the Partners!

Since 1998, the Woodland School, a group of diverse natural resource professionals, has been helping people improve the health of public and private land. Participants in Woodland School classes have the opportunity to interact one-on-one with natural resource professionals from organizations, agencies, and consulting companies in the classroom and field. This hands-on approach gives participants the confidence to take positive actions from participating in a prescribed burn on their property to selecting trees for timber stand improvement in their woods, to applying herbicides in controlling invasive species.

For more information visit: www.aldoleopold.org/woodlandschool



Front cover photos (top to bottom): landowners learning to measure the height of trees; yellow-throated vireo; buttonbush; sawing a tree. Background photo: Southern mesic woods.

Back cover photos (left to right): planning a prescribed fire; wild geranium; caught a big one!



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